than years spent in the laboratory or in the philosopher's chair.

Finally, it may be pointed out that, in his general discussion of the possible relation between the Ego, the psychoid, and the material mechanism, Prof. Driesch accepts 'Behaviourism' as a sound method of scientific research. Viewed scientifically, he says, acting organisms are "natural bodies in motion." He carefully avoids 'pseudo-psychology,' which wrongly mingles introspective true psychology with the results of scientific observation and experiment. Nevertheless, he rejects the theory that conscious phenomena and the mechanics of behaviour, that the mental and the physical series of events, are ultimately one and the same thing seen from two different points of view, the one the introspective, the other the extrospective. He thus refuses to accept the only interpretation, it seems to us, which a scientific man can adopt, at all events, as a working hypothesis, if he wishes to avoid pseudo-psychological fallacies.

E. S. GOODRICH.

SHORTER NOTICES

Antropologiske Comité Danmark. *Meddelelser om Danmarks Antropologi,* by various authors (with English summaries). Copenhagen, 1929. G. E. Gad. Vol. 1 (1907-1911), pp. 402; Vol. 2 (1920-1928), pp. 402.

IT is difficult in a short notice to do justice to these two admirable volumes, or to thank the forethought of our Danish colleagues who, realizing that our knowledge of their language may be, and usually is, scanty, have provided summaries which put their conclusions at our disposal and at the same time by careful references enable us to use the figures in the body of the text.

There are several points which apply to nearly all the papers which may be discussed first. The authors, especially Dr. Sorel Hansen, are very careful to state precisely the distinction between biological classifications, race, and so on, and classifications which depend on culture, language, nationality, social status, and the like. Such important distinctions are so often very loosely differentiated that their work in this direction is particularly welcome. Secondly, they are refreshingly fortunate in being able to produce really adequate numbers before indulging in statistical computations. My impression, but in that I may be mistaken, is that the statistical work is rather that of biologists than of mathematicians; but I am foolish enough to rejoice therein, for the mathematicians too often regard the biologists as foes, and they return the compliment. Here I think that the mathematicians have forged a weapon and that the biologists have not been afraid to use it. So much for general impressions.

As far as particular papers are concerned, many are devoted to questions which are mainly the concern of anthropologists, head form, stature, and race, and so on. Of these the most interesting to the general reader will probably be that by Dr. Steensby, in which he discusses the races of Denmark. The author does not believe in the specific distinction between Neanderthal and modern man, but considers that both stocks have contributed to the present make-up of the Danish people.

Of those papers which are specially interesting to readers of this REVIEW is, first, H. J. Hansen's on the weight of new-born children. Here the author discusses the weight in relation to the number of pregnancies, the age, the social class of the mother, and the time of year at which birth takes place. The paper is based on just under 6,000 cases. The paper by Sφren Hansen on "The inferior quality of the first-born" is of particular interest, but the title is somewhat misleading, as the author is concerned mainly with the relative tendencies to feeble-mindedness and tuberculosis of first-born children. The problem is one of the greatest importance, and this contribution is a most useful continuation of the work done in this country by Karl Pearson. Another paper by the same author on the inheritance of deaf-mutism is also a most useful contribution to eugenic literature, especially since the author discusses the problem from its practical as well as its theoretical bearing.

Finally, a paper by Povl Heiberg suggests that the crisis of the world war has had a deleterious effect on the height of recruits for the Danish army. Statistics are not fully available for this

country, but on the whole this does not appear to have been the case here. It would be useful if similar studies covering the same period could be made throughout all the countries of Western Europe where conscription is in force and similar figures are therefore available.

I have only referred to those papers which seem of particular interest to students of eugenics. I should add finally that the English summaries, though they halt at times, are very well done and give a lucid account of each writer's paper.

L. H. DUDLEY BUXTON.

Babcock, Professor Donald C. *Man and Social Achievement.* New York, 1929. Longmans, Green. Pp. 546+xiv. Price 12s. 6d.

PROFESSOR BABCOCK has undertaken a formidable task in outlining the history of human civilization in one volume. In order to cover so much ground in less than 550 small-sized pages, there has necessarily been much condensation, so that some parts of the book seem rather overloaded with facts to which it is impossible to do real justice, while frequently the author is compelled just to throw out an idea or to set out a line of thought or investigation for the reader. In spite of these limitations, the book successfully accomplishes its intended aim, and can heartily be recommended to anyone who wants an introduction to the subject. The constant reference to other books will enable those who wish to probe deeper into the subject to gain a fundamental knowledge of the relevant literature.

In his study of mankind, the author takes the conception of Emergent Evolution as his creed, and treats the subject from a strictly biological aspect. As the result of the interaction of the accepted biological factors, such as natural selection, heredity, environment, etc., man has passed through the numerous stages on the road to civilization and beyond. In this way are evolved the various types of cultural associations that have appeared at different times and in all parts of the world. Many of them differ greatly in accordance with the environmental requirements, but often there are signs of "convergence," as in the structural form of animals, e.g., the familiar example of fish and whale.

Professor Babcock compares the blending of the various elements and forces to the weaving of patterns, by which term he suggests "development, behaviour, interlocking, variety within units, and the innate witness to an idea as movement." Considered biologically, these culture patterns are social organizations that have been adapted to the requisite needs of the time and place, and, like the adaptations of animals and plants, rarely become permanent, but are modified in correlation with the changing environmental conditions.

In many cases, to illustrate some important point, Professor Babcock uses very effectively everyday instances, which by their very commonplaceness emphasize his arguments. Out of many such examples, one might mention his happy study of the human vestigial structures that are to be found in the metaphorical uses of words, such as "harvest," "crown," "heart," "cradle," etc. To use the author's own phrase, "such words carry tremendous freightage of social meaning down the years." But one wonders if Professor Babcock is not mistaken in associating the "yoke" as the symbol of slavery and drudgery with the contrivance carried on the neck and shoulders of man for transporting pails, etc. This surely is a later development; and a reference to classical dictionaries will show that the Greek ζυγόν and the Latin *iugum* never refer to that type of yoke, but to the beam of wood binding the enslaved ox-team together, whence the metaphorical meaning, found in early writings, is derived.

Professor Babcock is an optimist, and perhaps tends to look on things with a lenient, if not sentimental, eye. Is man such a wonderful creature to any but humans? We see little in this book of the shadier side of human life, though, in the last chapter, he expresses some doubts as to the ultimate future of mankind, and seems to suggest that man's further evolution may lie more and more in his own hands. Finally, he appends a long list of problems that have to be faced, and it will no doubt be interesting to eugenists that the first on the list is the problem of population, with eugenics suggested as its possible solution.

C. C. HENTSCHEL.

Boas, Professor Franz, Ph.D. *Anthropology and Modern Life.* London, 1929. Allen & Unwin. Pp. 246. Price 10s. 6d.

ACTION breeds reaction, and out of the welter of the "Nordic" faith has arisen the new scepticism which regards all races as equal. Professor Boas tends that way, and the first part of his book is devoted to showing how little basis there is for the racial prejudices which attend the 'melting pot' of America.

Thereafter, having discussed nationalism with the hope that it will develop into internationalism, he proceeds to eugenics, a subject which he does not appear to have studied very closely. Crime, stability of culture, education, and modern civilization are among the other subjects viewed anthropologically, but without the emergence of anything really tangible. But doubtless the uninstructed reader will derive from the book some idea of the salient problems.

E. M.

Buxton, L. H. Dudley (Editor). *The Pitt-Rivers Museum, Farnham. General Handbook.* Farnham, Dorset, 1929. Oxford University Press. Pp. 63. Price 3s.

THE idea of making a museum a real live centre of education is not new, but even in the great museums of the world the objective is one of such difficulty that it is rarely achieved. It is clear, however, that while metropolitan museums are storehouses of study for the specialists, a real spread of knowledge will come best through local exhibitions. The Horniman Museum and the Geffryes are good models in this country, and it is interesting to note that the arrangement in the former was largely inspired by the Farnham Museum, the little guide-book to which has just been issued by Captain Pitt-Rivers, under the editorship of Mr. Dudley Buxton.

The Farnham Museum, founded by Captain Pitt-Rivers's grandfather, shows how well this local interest can be maintained. The more widely known Pitt-Rivers Museum at Oxford, also founded by the General, shows the same tendencies in the exhibition of ethnographical collections, drawn from a wide field, but displayed always with the care for demonstrating development of cultures. Unlike Oxford, the Farnham collection specially brings out archæological and local interests. There is an agricultural room, showing the serial changes in implements, with a fine collection of English peasant tools, which must make a special appeal to a rural population.

Evolution is demonstrated in the development of locks and keys shown in Room IV, in models of excavations in Britain, and in the series of skulls. The development of pottery is delightfully described in the chapter, " The Clay and the Pot," by Dr. H. S. Harrison, Keeper of the Horniman Museum.

Captain Pitt-Rivers's determination to make this collection a lively centre of education is shown in the arrangements for student gatherings, such as that held last spring. The Museum is close to the Larmer Tree grounds, where a number of Indian buildings give scope for lecture-rooms, theatre, and dormitories, this accommodation being supplemented by rooms at the Museum and the neighbouring " Museum Hotel," while the delicious little towns of Blandford and Shaftesbury are within easy reach for the possessors of cars.

Eugenists will, it is hoped, be inspired by the possibilities of anthropological collections when thus handled. Captain Pitt-Rivers is making the experiment of setting up on the free walls a permanent eugenics exhibit which, beginning with key charts demonstrating simple Mendelian segregation, proceed to human heredity studies. This gives a clue to the special development of culture in contact with different races, and to the basic human stock upon which civilizations depend.

The *Guide Book* is delightfully illustrated, and gives a history of the origin of the collections, with just enough allusion to the past life of the district (post-prehistoric) to stimulate further reading.

M. R.

Calverton, V. F. *The Bankruptcy of Marriage.* London, 1929. John Hamilton. Pp. 320. Price 15s.

ONLY " marriage of the binding, contract variety " is here discussed and found bankrupt. The author primarily describes American conditions; but that does not confine the value of the book to the United States, for what America is doing to-day Europe is apt to be doing to-morrow.

Calverton reiterates the statement that we are an age obsessed with sex; but Briffault gets nearer the truth when he says that there has been sex obsession in all ages except the Greek, and " Those who affect to lament that these issues are being too much discussed are evil counsellors." We can only hope that the present ' obsession ' may be infused by an intellectual honesty that will lead, probably not to a complete solution of the problems of sex and of love, but at least to an amelioration.

Here there is criticism of marriage, but even more, perhaps, criticism of hypocrisy and mental dishonesty, two mental disorders which flourish exceedingly in America as well as England, and are not entirely unknown in other countries. The antagonistic attitude of American and English doctors towards birth control is an example. " That obstetricians could express such an unenlightened and unprogressive attitude would be incredible were it not for our understanding of how scientific minds are enslaved by moral and religious tradition." It is almost inconceivable that so many medical schools send out their graduates without any other knowledge of birth control than that picked up from bawdy conversation and rubber-shop books.

Calverton expresses clearly the relation between birth control and the sex revolution; but if the advocates of birth control were to repeat what he says, they would certainly find our Parliamentarians even more obdurate.

Calverton is a producer of mental bombs which are certainly stimulating when they are not nerve shattering. One can image Anatole France chuckling over, " Out of the modern revolt appears the woman who realises she has never been really timid, prudish, or monogamous, but is naturally bold, immodest, and polyandrous "; " birth control shifted the emphasis in sex life from the procreational to the recreational "; " The

whole Puritan morality revolved around the concept of property-relations and property-contract"; "Tentatively, at least, it may be stated as a psychological law that with constancy of contact, the enjoyment of sex relationship decreases in reverse ratio to its repetition."

But being a constructive thinker he writes, "In order to progress we must hazard new seas," and then in his chapters on "The New Morality" in Germany and Russia, suggests some boats on which we may launch hopefully on our adventures.

O. A. MERRITT HAWKES.

Duncan, Hannibal G., Ph.D., Th.D. *Race and Population Problems.* London, 1929. Longmans, Green. Pp. xv + 424. Price 10s. 6d.

THIS is a text-book of sociology written by a professor of that subject who, "while recognising the excellence of works already in the field, . . . does not consider any one of them sufficient for a well-balanced text." The book contains a vast amount of information, much of which must be reliable, with a minimum of reasoning or critical consideration. Statements are repeated from sources of all kinds, and they seem to have been collected impartially; they cannot all be the opinions of the author, so that it seems a pity that in 1929 such, for example, as that France "has the lowest birth rate of any country in the world" (p. 340), should be allowed to survive, or "History shows that France is the most warlike nation in the world" (p. 343). The appendix of examination questions shows strikingly the kinds of questions which students of sociology are being trained to answer:

"II. 5. From the standpoint of gland functioning, explain racial differences.

"XVIII. 4. What effect does occupation have upon fertility?

"XIX. 4. Why are manufacturers so interested in birth control?"

R. A. FISHER.

Hook, Alfred. *The Human Factor.* London, 1928. P. S. King & Son. Pp. 211. Price 8s. 6d.

"Tout comprendre est tout pardonner", is the keynote of this book, in which the author sets out to explain human nature in the light of recent scientific work, and on that basis to make an appeal, more especially to the Churches, for tolerance and understanding in the disputes of industry and politics. First of all indicating the falsity of the old-fashioned economist's "economic man," he proceeds, through physics, to speak of the fundamental unity of nature. Thereafter he continues, on a semi-philosophical plane, to describe the mutual relationships of not-living matter and vegetable and animal life. Proceeding thence through evolution, which he says is not antagonistic to religion, he indicates the development of human nature from animal nature, and passes on to psychology, modern education, industry, and politics.

E. M.

Huxley, Professor Julian S. (Editor). *What Darwin Really Said.* London, 1929. Routledge. Pp. 80. Price 6d.

THIS little book—No. 8 of the *Routledge Introductions to Modern Knowledge*—needed to be written, and it has been well turned and tooled to fit neatly in its place in biological literature. The editor contributes a lucid and cogent introduction, outlining and answering most of the current misconceptions about Darwin's theory of evolution, and then gives a series of selected quotations from the *Origin of Species*. These are well chosen, including most of Darwin's most pithy and pregnant passages, and they should be as useful to the biological lecturer or writer, who has forgotten where to find them in the original, as they will be enlightening to the newspaper reader who thinks there is now something to be said for the 'Fundamentalist.'

E. M.

Kehl, Dr. Renato. *Liçoes de Eugenica.* Rio de Janeiro, 1929. Azevado. Pp. 274. Unpriced.

THIS little book is written in Portuguese for the purpose of bringing the science of eugenics before the public of Brazil. The history of eugenics is told in simple language, as also its meaning to the individual and to the human race generally. Each chapter introduces the reader to matters which must be studied if the science under discussion is to be properly understood.

Hence, in a very limited space there are chapters introducing such subjects as general biology, heredity, the Mendelian theory, etc.—all written with the idea of arousing sufficient interest in the reader to cause him to wish for further and deeper study.

The book is amplified with charts, showing the family histories of eugenic and dysgenic unions; forms are also given to facilitate the keeping of family records, including one which is used by the Kaiser-Wilhelm Institute in Berlin.

The author has drawn up a model pre-nuptial certificate; it has the merit of being short, and would appear to embrace all that is necessary to allow a clean bill of health certificate to be issued to any person whom it may concern.

The tone of the book is declared in the little sentence Dr. Kehl has written on the title-page, "This science of Galton is the pedestal of the religion which has for its object the regeneration of the entire human race."

Dr. Kehl speaks of the difficulties encountered in the early days of propaganda in Brazil. But seed evidently fell on good ground, for it is in this year (1929) that the San Paulo Eugenics Society completes its tenth birthday, and clearly it is the means of spreading a wholesome influence, as is evidenced by the steady increase of its membership.

K. E. T.

Kelley, Truman Lee. *Scientific Method: Its Function in Research and Education.* Columbus, 1929. Ohio State University Press. Pp. 195. Price $2.50.

SCIENCE is ultimately a means of settling practical issues and our attitude to the immediate future, usually by a reference to the past or by an experimental study of the present.

Though the latter is the ideal method, practical necessity compels us to act on a judgment of some sort to begin with, until an experimental technique definitely settles the matter.

Professor Kelley points out the legitimate place of the ' questionnaire ' in scientific method as a means of securing a ' weighted ' judgment on any matter; that is to say, a judgment based on the experience and opinions of the most capable individuals. In this series of five lectures he states clearly the viewpoint to which his own researches as a statistically minded psychologist have led him.

He is convinced that an extension of present work on tests of intelligence and achievement must lead to the formulation of efficient and practical tests of the effects of both nature and nurture on mental capacity. More specifically it must lead to the construction of scales to reveal and measure independent mental traits.

Up to the moment common experience, as well as the judgment of the most expert, tells us that such traits exist and vary from one individual to another. The community continues to give its greatest rewards to those who specialize by developing their best traits. In the educational field we take this for granted, yet we continue—unwisely and unprofitably—to train for uniformity.

In the eugenic field—despite the lack of adequate experimental verification—Professor Kelley considers that we are in a position to assume not only the existence of such traits but also their heritability. We have also sufficient contraceptive knowledge to do something about it. In short, our racial knowledge is here well ahead of our racial will to self-sacrifice.

This book provides an interesting comment—from the viewpoint of a statistical psychologist—on some of the more basic premises of eugenics.

H. HARRIS.

Lynd, R. S. and H. M. *Middletown: A Study in Contemporary American Culture.* London, 1929. Constable. Pp. 550. Price 18s. 6d.

A MINUTELY detailed account of the average daily life of average people inhabiting an average town in the American Middle West is of necessity somewhat unexciting reading. This is especially the case when the task has been performed so thoroughly as it has in *Middletown.*

Middletown of Robert and Helen Lynd is *Zenith* of Sinclair Lewis's inimitable " Babbitt." A research student of the future may well turn to *Middletown,* but the ordinary student of humanity will probably prefer to visualize life in the early twentieth century in the Middle West melting-pot with the aid of Sinclair Lewis's vivid daubing, rather than the Lynds' fine etching.

It is somewhat surprising that in a survey that is in most respects so comprehensive the authors should have ignored the racial origins of the inhabitants of Middletown. Their environment does not appear attractive to the Britisher.

It recalls to your reviewer a remark made to him some years ago by a great American capitalist, who knew England well. He said that he had great difficulty in explaining to American industrialists that it was the attractions of the home life of the British working classes, as compared with that of the American proletariat, and not lack of intelligence or enterprise, that outweighed the lure of the higher wages and greater opportunities of the U.S.A.

Middletown is a book of value, and its compilation must have involved much tedious research, but it would have been easier to read had the authors made more use of tables in presenting their findings.

A. W. H. JAMES.

Massingham, H. J. *The Heritage of Man.* London, 1929. Jonathan Cape. Pp. 319. Price 10s. 6d.

HERE is one who is sensuous to his very bones, a lover of life and of words, and one of those—none too numerous—who know a little about everything and can write about anything.

Under his broad title Mr. Massingham ranges from flowers and bird-life and all that rich world of the naturalist who is half a poet, to anthropology (including such diverse aspects as ball-games and Buddhism), the Stone men of Derbyshire, and the ruination of the countryside by motor-cars and ' bungaloid ' growths.

Often, as in the " Mare Sacrum " descriptions of the birds and scenery of the Mediterranean, his prose is lovely—though occasionally he strains too far and spoils the effect; always is he interesting, especially when he describes with the detail of a lover the habits of English birds;

and always is he a positivist, a believer. The capacity for suspended judgment is not in him, and he has the inner urge to seize on anything which has or seems to have a ' vitalist ' interpretation. Consequently, the reviewer, for one, is tempted to join issue with him on natural selection and on Lamarckism; and doubtless anthropologists and all the other specialists into whose provinces he makes his slashing incursions, will have to exercise the same forbearance. Nevertheless, here is good writing, good reading, and some enlivening thoughts.

E. M.

National Society for the Study of Education. *Pre-school and Parental Education.* Bloomington (Ill.), 1929. Public School Publishing Company. Pp. x, 875. Unpriced.

MODERN psychology, which has focussed so much attention upon the first few years of a child's life as the period during which the lines of his future physical, mental, and emotional well-being are laid down, is undoubtedly responsible for the enormous outcrop of nursery schools, societies for child-study, play schools, guidance nurseries, and societies for parental education, that has developed in recent years.

The present volume gives a brief historical survey of the subject and an account of the facilities offered in the States for the education of pre-school children, and for parental and pre-parental training; in the second part methods and results of research into pre-school education are considered, and finally methods of educating parents. For the student who wishes to know something of the educational ideas and methods of the United States this book is undoubtedly valuable, providing a carefully selected mass of material in an accessible form. For the general public the historical survey will prove the most interesting part of the book, and it is a pity that this should be so short.

L. M. CRUMP.

Noordin, R. M. *Through a Workhouse Window.* London, 1929. Cecil Palmer. Pp. 216. Price 5s.

THIS is the account of three years' service as a Guardian of the Poor, by a young man who was fortunate enough to commence that valuable experience at the age of twenty-three. Unfortunately, he was not old enough to understand or recount it, and what might have been a most useful and interesting book is chiefly about Mr. Noordin and his opinions. While there are very few Guardians who write about their work—hence the potential value of such a book—there are quite a lot of people who already know all that Mr. Noordin here tells. Though they would not, of course, know his views upon various social subjects, nor even why he still feels aggrieved over the important matter of the renovation of the Church of England chapel.

But still, even if he has not made any great contribution to literature or sociology, he has enriched his own experience and, in thus practically recognizing the usefulness and opportunities of Local Government, has set an example to the rest of us.

E. M.

Phillips, P. D., M.A., LL.D., and Wood, G.L., M.A. (Editors). *The Peopling of Australia.* Melbourne, 1928. University Press and Macmillan. Pp. xi + 300. Price 6s.

THIS is the first of a projected " Pacific Relations Series " of books, and it is on Australia, by Australians, for Australians. There are, including the two editors, eleven contributors, each responsible for one long essay on some one or more aspects of Australian population.

The editors' long preliminary survey of the field, " The Australian Population Problem," is a balanced and scholarly piece of work which not only explains Australia to Australians, but has also enabled your English reviewer to see the human aspects and difficulties of a set of problems very different from our own. Professor C. H. Wickens, the Commonwealth statistician, sketches the nature and growth of the population with terseness and clarity, and resurrects one important fact which is too often forgotten by the advocates of large-scale migration. Over the long period from 1860 to 1924 only 24 per cent. of a great increase was due to immigration, which averaged out very uniformly at the yearly figure of 5½ immigrants per 1,000 of the population. He suggests that this represents the country's capacity for absorption; and, indeed, one might even go farther and ask whether, had immigrants been lacking, the population could not have supplied that 5½ per 1,000 by normal natural increase.

Professor A. H. Charteris writes on the immigration policy, Mr. Wood on immigration and industry, and Professor W. E. Agar on the eugenic aspects. The last is a general and rather slight survey, but it contains an excellent saying attributed by William James to an English workman: " There is very little difference between one man and another when you go to the bottom of it, but what little there is, is very important."

Mr. Jens Lyng, writing on the allied subject of racial composition, seems to have been rather too much influenced by the ' Nordic ' hypothesis. Mr. E. T. McPhee deals with the process of urbanization, and Mr. Henry Barkley with the

climatic factors which govern the distribution of the population (his discussion of rainfall is most enlightening), while Dr. R. W. Cilento puts up a spirited and well-supported defence of tropical Queensland as a white man's country. Australia's optimum population is discussed by Dr. F. C. Benham, and the economic control of immigration by Professor J. B. Brigden.

Practically all the writers emphasize a fact which has yet been little realized—that Australia's " vast open spaces " only exist in the same sense that the Sahara exists : they cannot support life. In fact, the continent is described as a fairly fertile, but rather narrow frame round a huge uninhabitable desert; and the estimates of possible population, though they vary considerably, seem to centre round a point between fifteen and thirty millions—which differs considerably from the hundred millions suggested by some optimists.

To some extent the various writers overlap and repeat one another, as is perhaps inevitable, and the general attitude is more that of the economist or statistician than of the demographer and biologist. But, as a whole, the book is a sincere and successful effort to present the intelligent Australian with a scientific and unbiased exposé of a subject which has hitherto touched his heart more than his head. To us here it is an earnest and a cheering one, that Australians, at least, will profit from our experience and will tackle their eugenic and population problems while still in the infant stage. The present attitude of experts and laymen alike, if one can judge from this and other Australian books, may be summarized thus :

> We are getting on very nicely, thank you, with a high rate of natural increase which will rapidly fill our not-illimitable spaces. We scarcely need immigrants, but we could take a few more of the right type—on no account coloured people, if only for fear of miscegenation and the lowering of our high standard of living. Indeed, white foreigners need scarcely apply, as we're as British as Britain and intend to remain so.

And who can blame them?

E. M.

Przibram, H. *Experimental-Zoologie: VI. Zoonomie.* Leipzig and Wien, 1929. Franz Deuticke. Pp. 431, pls. 16. Price M. 40.

THIS volume is the sixth of the comprehensive work on experimental zoology which has been written by Hans Przibram. It is divided into two main parts. The first deals with experimental work done upon regeneration, heredity, and embryology in each of the main groups of the animal kingdom, a chapter being devoted to each group. The second part is concerned mainly with the more theoretical aspect of the subject, in which the practical observations on the various groups are correlated and applied to expound the general theories of heredity and evolution.

The last 150 pages are devoted to an extensive bibliography of all the more important papers dealing with the subjects under consideration; it has been brought up to 1928.

Sixteen plates, consisting of line drawings, illustrating experimental work on the groups considered, are included at the end of the volume. The book, though rather advanced for the general reader, will be found of value to the student of experimental zoology.

W. R. IVIMEY COOK.

Rice, Professor Thurman B., M.D. *Racial Hygiene.* New York and London, 1929. Macmillan. Pp. xiv + 376, with 57 figures. Price 18s.

HEREIN is a useful analysis of the fertility of the socially inadequate. The size of family was ascertained of over a thousand women who were so destitute through illness or defect that they could obtain only medical students to attend them in child-birth. Among the details elicited was the remarkably early age at which most of these women began to add to the population—in itself a prognosis of high fertility—though the chief interest, to us, lies in their completed fertility. At age 35 the average size of family was 6.2; at age 40, 7.2; and at 41, 10.7. This last figure is probably too high to be representative; but the figure of 7.7 which is given for all mothers over 35 years is almost exactly the same as that of the London paupers investigated by E. J. Lidbetter. Apparently there is little difference between the defectives on the two sides of the Atlantic.

The ' control ' group investigated, middle-class women attending a maternity home for the members of a religious fraternity, yielded very different statistics, for the average number of children produced by all mothers over the age of 35 was only 2.2.

This investigation is the most valuable part of the book, the remainder of which is very like all the other introductions to eugenics. Like them, it quite fails to pass the crucial test of rendering the complexities of biology easy to understand, while there are in parts indications that the author himself has not mastered them. He lacks—to my mind—a comprehension of the action of natural selection, and there are actual errors in his descriptions of various biological details. In particular, bi-parental inheritance does not *reduce* variation (p. 46); sex-limited characters are not the same as sex-linked (chap.

7); neither is the female the weaker sex, nor the pre-natal death rate higher among females than males! (*ibid*). Judging, too, from pp. 48 *et seq.*, Professor Rice is not yet acquainted with the X and Y chromosomes.

The sociological sections are happier and show more than usual common sense; though they, too, are not free from definite errors—e.g., the population of France is not stationary, while I am sure that Professor Rice, if he paused to think, would agree that recessive, not dominant, defects are the most dangerous to the State. Indeed, the book itself might be described as carrying the recessive defect of inaccuracy—rendered all the more dangerous to the laymen for whom it is intended by being mingled with sense and science.

E. M.

Schlieper, Hans. *Das Raumjahr.* Jena, 1929. Diederichs. Pp. 358. Unpriced.

THE never-ceasing fertility of the human mind in ideas, old and new, innocent and subtle, superficial and penetrating, is ever a source of amazement. Here is an example. Dr. Schlieper devotes 358 closely printed pages to proving that all vital processes take place in cycles of 23 and 28 days, or in combinations of 23 and 28 days. The proof consists of a selection of cases, ranging from the sequence of shoots on *Parinarium sumatranum* to the intervals between the author's cousins' birthdays and to the numbers found in the various classes in one of Morgan's classical *Drosophila* crosses.

M. S. P.

Spencer, Sir Baldwin. *Wanderings in Wild Australia.* London, 1928. Macmillan. Two vols., pp. 455 and 930. Price 42s.

IT is a melancholy task for a critic to write about a book whose author is dead. This is especially the case in the present volume. In it Sir Baldwin has reviewed his life work. Zoologist, traveller, anthropologist, teacher, he built up with the assistance of such able collaborators as the late Mr. F. J. Gillen a foundation of scientific work, which is hitherto probably one of the most noticeable of contributions to learning which has been made by any of the self-governing Dominions.

The present sumptuous volumes, beautifully illustrated both in colour and half-tone, are especially welcome, as they will serve to introduce the general reader to Baldwin Spencer's work. They cover all the field which I have outlined above. They are specially easy to read, for they follow the model of that most fascinating of all scientific classics, Darwin's *Voyage of the Beagle*; that is to say, the framework is travel, but wherever the author comes across some particularly interesting beast or savage tribe he pauses to tell us why the discovery was important and what the bearing of the discovery is on other scientific problems.

Although Spencer first made his reputation by "cutting a lizard's head in two," his principal work lay among the aborigines of Australia, and it is therefore to them that the greater part of the book is devoted. He has two objects in view, first to give us an account of the lives of these primitive peoples, still dependent on stone weapons for their livelihood, and secondly to explain what measures were, and are, being taken to preserve them from the inroads of civilization, before which they must inevitably go down.

There is little new in these volumes; much is repeated almost word for word from previous publications. Their merit, however, lies in the fact that they resume the scientific work in a form which can be easily understood by the man who is neither a professional anthropologist nor zoologist. To him very lengthy discussions of savage rites, or systematic descriptions of tree frogs, are apt to be rather wearisome. For myself, though I have read, I think, most of the author's previous publications, I was very glad to have these books in my hands and read a connected account of Sir Baldwin's journeys into the never-never land of Central Australia. It is too early yet to estimate the exact value of his contributions to science. They are very great, much modern anthropological theory has been built up on them, especially on his work among the Arunta. Some modern critics, especially younger ones, are inclined to say that they are tired to death of the Australian aboriginal, and perhaps the very excellence of the work of Spencer and Gillen has made this inevitable, and our old friend the swing of the pendulum always affects everything. But of the enduring qualities of the work there is very little doubt. As far as these two volumes are concerned, it might almost be said without exaggeration that it is the duty of anyone who is interested in the history of human progress to read them. The reading will in any case prove a very delightful task.

L. H. D. B.

Spencer, Herbert. *Descriptive Sociology: Mesopotamia.* London, 1929. Williams & Norgate. Price 42s.

THIS volume, issued under the plan organized by Herbert Spencer, contains large numbers of interesting quotations on all social questions, these being arranged in order so as to be easily referred to by the student. It does not contain much information of special importance to the

eugenist. This reviewer is, however, glad to find that two of his pet reforms were receiving consideration in those ancient days, though the progress made in the intervening 4,000 (?) years is decidedly disappointing. We are told that amongst the Babylonians children were branded on the soles of their feet to establish their identity (col. 47). If this civilization had continued to progress up to the present time, no doubt tattooing with local anæsthetics would have been substituted for branding, and an efficient system of registration would have been introduced. In these circumstances the Babylonians would have been in a position to trace the complete family history of even an abandoned idiot. Moreover, they could easily have detected the chauffeur with an endorsed licence when applying for a new licence under a false name. But is this eugenics? The Babylonians would by this time certainly have so regarded it; for having spotted the confirmed road-hog, they certainly would have taken prompt measures for preventing him from reproducing his kind, thus completely stamping out this highly objectionable type in the course of the next 1,000 years.

As to the second reform here to be mentioned, the reviewer is probably in a minority amongst eugenists. We are informed that Assyrian law enacted that a wife abandoned by her husband must remain unmarried for five years, whilst being free to marry again in the sixth year (col. 11). Had this civilization continued to flourish, this law would have been made applicable to both sexes, and such a separation would have been made the only road to divorce, thus setting an example to all other peoples.

L. D.

Thomson, Godfrey H. *A Modern Philosophy of Education.* London, 1929. Allen and Unwin. Pp. 283. Price 8s. 6d.

ALL sorts and conditions of men are to-day interested in education, but very few would claim to be interested in the philosophy of education. And yet we are all to some extent philosophers; we all have some ideas of what education ought to do, of what it might do. In moments of depression we are tempted to ask disparagingly, "What is the good of all this education?" Our solutions to these problems depend on the special spectacles through which we see what we imagine to be the truth, and, as Professor Thomson suggests, it is imperative that we should now and then try on pairs of spectacles worn by others. He has therefore written this book, and readers are privileged to look at education through a very excellent pair of spectacles. They will not be mystified by the technicalities of academic philosophy; they will get a view of education which is at once clear and comprehensive, though by virtue of these very qualities it is not a simple view.

Thomson accepts the utilitarian doctrine of happiness as the ultimate end of life, and therefore of education. He approves the demand for equality of opportunity as one to which everyone feels his heart respond. But, as a psychologist who has taken a leading part in modern statistical investigations, Thomson is under no misapprehension regarding the fact of inborn differences of physique, temperament, and intelligence, and he devotes considerable attention to the educational problems which these differences create. He is opposed to the present tendency to create separate schools in England for children of different levels of intelligence, arguing that "the social solidarity of the whole nation is more important than any of the defects to which a comprehensive high school may be subject."

Readers of this journal will be particularly interested in the chapters on Heredity and Education, The Social Inheritance, and Population and Education. The author reviews recent experiments directed to disentangling the influences of nature and nurture on intelligence. Though the verdict is not unanimous, the balance of evidence suggests that nature is more potent than nurture in the production both of intelligence and achievement, and Thomson asserts that there is little reason to doubt the main conclusion of one investigator that only 17 per cent. of the *variability* of intelligence is due to differences of home environment.

It is inevitable that in a work of this character we should find more searching questions than satisfying answers, but herein lies its wide appeal. Professor Thomson's book is especially important at the present time in view of the new prospect in education created by the reorganization of our State schools and the promised raising of the school age.

A. G. HUGHES.

Tweedie, Mrs. Alec, F.R.G.S., F.R.C.I. *An Adventurous Journey.* London. Thornton Butterworth. Pp. 285, with 55 illustrations. Price 3s. 6d.

IN this little book Mrs. Alec Tweedie describes a journey made through Siberia to China in the year 1925. Her style is exceedingly disjointed, irregular, and journalistic, but however much her English composition might be criticized, it must be admitted that her word-painting is exceedingly vivid. She compels the reader to see the scenes which startled and interested her.

The interest of the book for eugenists consists in the observations of the authoress on the effects of overpopulation. In Russia the Bolshevists had denounced marriage as a bourgeois idea and

made procreation free to everyone; as a result there was produced a horde of unwanted children; every woman between the ages of 15 and 50 seemed to be bearing children. Mrs. Tweedie said she never saw so many children under 5 in her life. Finally the Government became alarmed at the prospect of feeding this hungry crowd, and sexual restraint was being preached as vigorously as sexual freedom had been a few years previously. Unfortunately it is much easier to open the flood-gates than to close them again.

In China, again, the effects of overpopulation are far-reaching. Pekin is described by the authoress as a city of "alarming smells," and small wonder when one remembers that drains are non-existent. But if drains were to be introduced an army of thousands of men, whose business it is to remove the night soil, would be out of employment, and a small revolution would be inevitable. Similarly, the streets of Pekin are watered from open carts containing the water which men distribute over the road surface by throwing it with a flat shovel. A modern sprinkler would thus deprive a crowd of men of their means of livelihood. In Canton superfluous babies are rolled in mats and thrown into the river, and Mrs. Tweedie, at first inclined to stigmatize this treatment as cruel, on second thoughts regards it as merciful. It is far better, she thinks, for these babies to be spared growing up to the life of slavery to which women of the lower classes are doomed. The lesson driven home by all these instances is that when population becomes too dense the standard of life inevitably sinks to a very low level, and until the population is thinned there is no means of raising it.

Mrs. Tweedie was greatly impressed by the dirt and inefficiency of the Bolshevist régime as she saw it, and nothing is more striking than her description of her passage from horrible discomfort to agreeable cleanliness when she crossed the Chinese frontier and encountered the polite, well-dressed, Europeanized Chinese officials. To Bolshevistic propaganda, rightly or wrongly, she attributes all the troubles of China.

E. W. MACBRIDE.

Visher, S. S., Ph.D. *Geography of American Notables.* No. 79, Indiana University Studies. Bloomington, 1928. Pp. 138. Price 75 cents.

ORIGINS other than geographical having been exhaustively treated by previous American writers, the most interesting part of this study is accordingly that which conforms strictly to the title and deals with the regional distribution of American eminence and general intelligence.

With regard to the latter, the mental tests applied in the army during the war, the circulation of magazines, popular and 'highbrow,' the average income *per capita,* and, on the reverse side, the prison population, are among the most interesting of the methods employed.

From the application of these and similar tests, we find, as we should expect, that the New England States in general, and Massachusetts in particular, still lead the way, but are now hard pressed by the Pacific States, especially by California. The Middle Atlantic and Middle Western States are fairly equal on the whole, while the South is behind in almost every respect, even if the coloured population be altogether excluded. The superiority of New England is most marked in the production of men of the first note, but in those tests which imply a generally high level of intelligence it must now yield place to the Pacific States. In the country as a whole it appears that notable men have sprung more from small to medium-sized towns than from large cities, and more from the latter than from country districts.

The author in his conclusions is inclined to hesitate between the respective influences of heredity and environment, with, it would seem, some bias towards environment. In respect of the latter, climate has certainly played no small part, the enervating summers of the South, coupled with the presence of a large coloured population, have played havoc with an originally fine stock, while on the Pacific Slope the mild winters and relatively cool summers have combined to produce an almost ideal climate, and the coloured population has there been kept within very small limits. New England, on the other hand, has no climatic superiority over the Middle Atlantic and Middle Western States, and its greatness is most certainly mainly due to heredity. To heredity, too, we can at least partly attribute the fine showing of the Pacific States, as it is on the whole the most enterprising who have attained to and settled in these regions.

Very interesting is the number of notable men born in the small to medium-sized towns. These often spring from parents both born in country districts, while they are themselves frequently the fathers of children born in large cities. The first generation has no doubt the finest stamina, the third perhaps the absolutely best intelligence, but it is usually in the middle generation that we find that combination of stamina and intelligence which leads to the greatest success.

Enough has been said to indicate the many trains of thought to which this most interesting and painstaking study gives rise.

W. T. J. GUN.